

What is claimed is:

1. An input processing method for a device which provides input by performing a touch motion on an operating surface, comprising:

5 a first step of detecting the length of time of a non-touch state in which no touch motion is performed on said operating surface; and

a second step of determining information indicating a touch state in accordance with said detected
10 length of time when a touch motion has occurred.

2. An input processing method as claimed in claim 1, wherein when a touch state occurs, said first step detects the length of time of said non-touch state that follows said touch state.

15 3. An input processing method as claimed in claim 1, wherein said second step determines that the state is the touch state if said detected length of time is less than a predetermined length of time.

20 4. An input processing method for a device which provides input by performing a touch motion on an operating surface, comprising:

a first step of detecting the number of successive occurrences of said touch motion; and

a second step of determining information indicating a touch state in accordance with said detected
25 number of occurrences.

5. An input processing method as claimed in claim 4, wherein said first step detects the number of occurrences of said touch motion over a predetermined
30 length of time.

6. An input processing method for a device which provides input by performing a touch motion on an operating surface, comprising:

35 a first step of detecting the number of occurrences of said touch motion over a predetermined length of time; and

a second step of determining information

indicating a touch state in accordance with said detected number of occurrences.

7. An input processing method as claimed in any one of claims 4 to 6, wherein when said number of
5 occurrences is 1, said second step determines that the state is not the touch state occurring in relation to said touch motion, and when said detected number of occurrences is 2 or more, then determines that the state is the touch state.

8. An input processing method as claimed in any one of claims 4 to 6, wherein when said detected number of occurrences is 2, it is determined that a single click has occurred, and/or when said detected number of
10 occurrences is 3, it is determined that a double click has occurred.
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9. An input processing method as claimed in ^{claim 1} ~~any~~ ~~one of claims 1 to 7~~, wherein

said device is a device that displays a cursor in a display section,

20 said cursor has a first state for directing the processing of a manipulation target displayed in said display section, and a second state for not directing the processing of said manipulation target, and

25 there is included a step in which said cursor changes from said second state to said first state in response to said touch state indicating information.

10. An input processing method as claimed in ^{claim 1} ~~any~~ ~~one of claims 1 to 9~~, including the step of determining
30 information indicating the termination of said touch state after said second step has determined said touch state indicating information and said touch state has ended.

11. An input processing method as claimed in ^{claim 1} ~~any~~ ~~one of claims 1 to 7~~, wherein
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said device is a device that displays a cursor in a display section,

said cursor has a first state for directing the processing of a manipulation target displayed in said display section, and a second state for not directing the processing of said manipulation target, and

there is included a step in which said cursor changes from said first state to said second state when said touch motion has ended.

12. An input processing method as claimed in ~~any~~ ^{claim 1} ~~one of claims 1 to 11~~, including the step of performing information processing in response to said touch state indicating information.

13. An input processing method as claimed in any one of claims 1 to 4, wherein said touch motion is performed using a pen on said operating surface, and said non-touch state is a pen up state, and/or said touch state is a pen down state.

14. An input processing method as claimed in claim 9, wherein said first state is a cursor-clicked state, and/or said second state is a hovering state.

15. An input processing method for a device which provides input by performing a touch motion on an operating surface, comprising the steps of:
detecting the number of successive occurrences of said touch motion; and
determining a corresponding mouse operation in accordance with said detected number of occurrences.

16. An input processing method as claimed in claim 15, wherein said corresponding mouse operation determining step determines that a single click has occurred when said detected number of occurrences is 2, and/or determines that a double click has occurred when said detected number of occurrences is 3.

17. An input processing method as claimed in ~~any~~ ^{claim 1} ~~one of claims 1 to 16~~, wherein said device comprises a display section and said touch motion operating surface

is arranged in said display section.

claim 1
18. An input processing method as claimed in ~~any~~
~~one of claims 1 to 16~~, wherein each of said steps is
carried out only when a designated mode is set active.

5 19. An input control apparatus for a touch input
device which provides input by performing a touch motion
on an operating surface, comprising:

10 a first unit detecting the length of time
of a non-touch state in which no touch motion is
performed on said operating surface; and

a second unit determining information
indicating a touch state in accordance with said detected
length of time when a touch motion has occurred.

15 20. An input control apparatus as claimed in claim
19, wherein when a touch state occurs, said first step
detects the length of time of said non-touch state that
follows said touch state.

20 21. An input control apparatus as claimed in claim
19, wherein said second unit determines that the state is
the touch state if said detected length of time is less
than a predetermined length of time

22. An input control apparatus for a device which
provides input by performing a touch motion on an
operating surface, comprising:

25 a first unit detecting the number of
successive occurrences of said touch motion; and

a second unit determining information
indicating a touch state in accordance with said detected
number of occurrences.

30 23. An input control apparatus as claimed in claim
22, wherein said first unit detects the number of
occurrences of said touch motion over a predetermined
length of time.

35 24. An input control apparatus for a device which
provides input by performing a touch motion on an
operating surface, comprising:

a first unit detecting the number of

occurrences of said touch motion over a predetermined length of time; and

a second unit determining information indicating a touch state in accordance with said detected number of occurrences.

25. An input control apparatus as claimed in any one of claims 22 to 24, wherein when said number of occurrences is 1, said second unit determines that the state is not the touch state occurring in relation to said touch motion, and when said detected number of occurrences is 2 or more, then determines that the state is the touch state.

26. An input control apparatus as claimed in ~~any~~ ^{claim 22} ~~one of claims 22 to 25~~, wherein when said detected number of occurrences is 2, it is determined that a single click has occurred, and/or when said detected number of occurrences is 3, it is determined that a double click has occurred.

27. An input control apparatus as claimed in ~~any~~ ^{claim 19} ~~one of claims 19 to 25~~, wherein

said device is a device that displays a cursor in a display section,

said cursor has a first state for directing the processing of a manipulation target displayed in said display section, and a second state for not directing the processing of said manipulation target, and

there is included a unit for changing said cursor from said second state to said first state in response to said touch state indicating information.

28. An input control apparatus as claimed in ~~any~~ ^{claim 19} ~~one of claims 19 to 27~~, including a unit determining information indicating the termination of said touch state after said second unit has determined said touch state indicating information and said touch state has ended.

29. An input control apparatus as claimed in ~~any~~ ^{claim 19}

~~one of claims 19 to 25~~, wherein

said device is a device that displays a cursor in a display section,

said cursor has a first state for
5 directing the processing of a manipulation target displayed in said display section, and a second state for not directing the processing of said manipulation target, and

there is included a unit changing said
10 cursor from said first state to said second state when said touch motion has ended.

30. An input control apparatus as claimed in ^{claim 19} ~~any~~
~~one of claims 19 to 29~~, including a unit performing
15 information processing in response to said touch state indicating information.

31. An input control apparatus as claimed in any one of claims 19 to 22, wherein said touch motion is performed using a pen on said operating surface, and
20 said non-touch state is a pen up state, and/or said touch state is a pen down state.

32. An input control apparatus as claimed in claim 27, wherein said first state is a cursor-clicked state, and/or said second state is a hovering state.

33. An input control apparatus for a device which
25 provides input by performing a touch motion on an operating surface, comprising:

a unit detecting the number of successive occurrences of said touch motion; and

a unit determining a corresponding mouse
30 operation in accordance with said detected number of occurrences.

34. An input control apparatus as claimed in claim 33, wherein said corresponding mouse operation determining unit determines that a single click has
35 occurred when said detected number of occurrences is 2, and/or determines that a double click has occurred when said detected number of occurrences is 3.

35. An input control apparatus as claimed in ^{claim 19} ~~any~~
~~one of claims 19 to 33~~, wherein each of said units
operates only when a designated mode is set active.

36. An information processing apparatus comprising:
5 said touch input device; and an input control apparatus
as claimed in ^{claim 19} ~~any one of claims 19 to 34~~.

37. An information processing apparatus comprising:
said touch input device; a display device; and an input
control apparatus as claimed in ^{claim 19} ~~any one of claims 19 to~~
10 ~~34~~, and wherein: the operating surface of said touch
input device is arranged in said display device.

38. A recording medium readable by a computer, said
computer using a device which provides input by
performing a touch motion on an operating surface, said
15 recording medium having a program recorded thereon for
causing said computer to implement:

a first function detecting the length of
time of a non-touch state in which no touch motion is
performed on said operating surface; and

20 a second function determining information
indicating a touch state in accordance with said detected
length of time when a touch motion has occurred.

39. A recording medium as claimed in claim 38,
wherein when a touch state occurs, said first function
25 detects the length of time of said non-touch state that
follows said touch state.

40. A recording medium as claimed in claim 38,
wherein said second function determines that the state is
the touch state if said detected length of time is less
30 than a predetermined length of time.

41. A recording medium readable by a computer, said
computer using a device which provides input by
performing a touch motion on an operating surface, said
recording medium having a program recorded thereon for
35 causing said computer to implement:

a first function detecting the number of
successive occurrences of said touch motion; and

a second function for determining information indicating a touch state in accordance with said detected number of occurrences.

42. A recording medium as claimed in claim 41,
5 wherein said first function detects the number of occurrences of said touch motion over a predetermined length of time.

43. A recording medium readable by a computer, said computer using a device which provides input by
10 performing a touch motion on an operating surface, said recording medium having a program recorded thereon for causing said computer to implement:

a first function detecting the number of occurrences of said touch motion over a predetermined
15 length of time; and

a second function determining information indicating a touch state in accordance with said detected number of occurrences.

44. A recording medium as claimed in any one of
20 claims 41 to 43, wherein when said number of occurrences is 1, said second function determines that the state is not the touch state occurring in relation to said touch motion, and when said detected number of occurrences is 2 or more, then determines that the state is the touch
25 state.

45. A recording medium as claimed in ^{claim 41} ~~any one of~~
a ~~claims 41 to 44~~, including a function for causing said computer to determine that a single click has occurred when said detected number of occurrences is 2, and/or a
30 function for causing said computer to determine that a double click has occurred when said detected number of occurrences is 3.

46. A recording medium as claimed in ^{claim 38} ~~any one of~~
a ~~claims 38 to 44~~, wherein
35 said device is a device that displays a cursor in a display section, said cursor having a first state for directing the processing of a manipulation

target displayed in said display section, and a second state for not directing the processing of said manipulation target, and

5 there is included a function changing said cursor from said second state to said first state in response to said touch state indicating information.

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47. A recording medium as claimed in ^{claim 37} ~~any one of claims 38 to 46~~, including a function for determining information indicating the termination of said touch state after said second function has determined said touch state indicating information and said touch state has ended.

48. A recording medium as claimed in ^{Claim 38} ~~any one of claims 38 to 44~~, wherein
15 said device is a device that displays a cursor in a display section,
said cursor has a first state for directing the processing of a manipulation target displayed in said display section, and a second state for
20 not directing the processing of said manipulation target, and

there is included a function for changing said cursor from said first state to said second state when said touch motion has ended.

25 49. A recording medium as claimed in ^{claim 38} ~~any one of claims 38 to 48~~, including a function for performing information processing in response to said touch state indicating information.

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50. A recording medium as claimed in any one of claims 38 to 41, wherein said touch motion is performed using a pen on said operating surface, and

said non-touch state is a pen up state, and/or said touch state is a pen down state.

51. A recording medium as claimed in claim 46, wherein said first state is a cursor-clicked state, and/or said second state is a hovering state.

52. A recording medium readable by a computer, said

computer using a device which provides input by performing a touch motion on an operating surface, said recording medium having a program recorded thereon for causing said computer to implement:

5 a function detecting the number of successive occurrences of said touch motion; and

 a function determining a corresponding mouse operation in accordance with said detected number of occurrences.

10 53. A recording medium as claimed in claim 52, wherein said corresponding mouse operation determining function determines that a single click has occurred when said detected number of occurrences is 2, and/or determines that a double click has occurred when said
15 detected number of occurrences is 3.

 54. A recording medium as claimed in ^{Claim 38} ~~any one of~~
~~claims 38 to 53,~~ wherein said device comprises a display section and said touch motion operating surface is arranged in said display section.